

Patent Claims

1. A method of producing a coating for the absorption of neutrons created in a nuclear reaction of radioactive materials, where at least part of a shielding element composed of a basic material is provided on a surface predetermined for it with a boron-nickel coating in a dispersion bath containing boron, and during the coating process, at least from time to time, a relative movement is produced between the surface to be coated and the dispersion bath.
2. The method in Claim 1, characterized by the fact that the relative movement is produced by moving the element to be coated.
3. The method in one of the preceding Claims, characterized by the fact that the surface to be coated is arranged face up in the dispersion bath.
4. The method in one of the preceding Claims, characterized by the fact that a dispersion bath with boron carbide is used.
5. The method in one of the preceding Claims, characterized by the fact that a dispersion bath with boron in elemental form is used.
6. The method in one of the preceding Claims, characterized by the fact that the coating is formed chemically.
7. The method in one of Claims 1 to 5, characterized by the fact that the coating is formed electrolytically.
8. The method in one of the preceding Claims, characterized by the fact that a coating 350 to 500 μm thick is produced.
9. The method in one of the preceding Claims, characterized by the fact that boron or boron carbide with more than 20% by volume is embedded in the nickel matrix.
10. The method in one of the preceding Claims, characterized by the fact that boron or boron carbide with more than 40% by volume is embedded in the nickel matrix.
11. The method in one of the preceding Claims, characterized by the fact that the dispersion bath is mixed, at least from time to time, during the coating process.

12. The method in one of the preceding Claims, characterized by the fact that the method is carried out in a glass tub.
13. A shielding element produced by the method in at least one of the preceding Claims, characterized by the fact that it is composed of an inorganic basic material with a boron/nickel coating on top, where the coating contains more than 20% boron or boron carbide by volume.